Filing Date: September 12, 2003

Title: METHOD AND KIT FOR IDENTIFYING VANCOMYCIN-RESISTANT ENTEROCOCCUS

In the Claims

Please amend the claims as follows:

- 1. (Currently Amended) A method to detect *vanA* in a sample, comprising:
- a) contacting a sample suspected of comprising amplified *vanA* nucleic acid with at least one *vanA*-specific oligonucleotide probe under high stringency hybridization conditions effective to form a hybrid between the *vanA*-specific oligonucleotide probe and *vanA* nucleic acid in the sample, wherein the *vanA*-specific oligonucleotide probe comprises sequences which include sequences substantially corresponding to nucleotides 870 to 896 (SEQ ID NO:3) of the *vanA* gene, the complement thereof, or a portion thereof of the sequences substantially corresponding to nucleotides 870 to 896 or the complement thereof, sequences substantially corresponding to nucleotides 851 to 868 (SEQ ID NO:2) of the *vanA* gene, the complement thereof, or a portion thereof of the sequences substantially corresponding to nucleotides 851 to 868 or the complement thereof, or sequences substantially corresponding to nucleotides 898 to 917 (SEQ ID NO:4) of the *vanA* gene, the complement thereof, or a portion thereof of the sequences substantially corresponding to nucleotides 898 to 917 (SEQ ID NO:4) of the *vanA* gene, the complement thereof, or a portion thereof of the sequences substantially corresponding to nucleotides 898 to 917 or the complement thereof; and
 - b) detecting or determining the presence or amount of hybrid formation.
- 2. (Withdrawn) A method to detect *vanB* in a sample, comprising:
- a) contacting a sample suspected of comprising amplified *vanB* nucleic acid with at least one *vanB*-specific oligonucleotide probe under high stringency hybridization conditions effective to form a hybrid between the *vanB*-specific oligonucleotide probe and *vanB* nucleic acid in the sample, wherein the *vanB*-specific oligonucleotide probe comprises sequences which include sequences substantially corresponding to nucleotides 387 to 404 of the *vanB* gene, the complement thereof, or a portion thereof, sequences substantially corresponding to nucleotides 406 to 423 of the *vanB* gene, the complement thereof, or a portion thereof, or sequences substantially corresponding to nucleotides 426 to 446 of the *vanB* gene, the complement thereof, or a portion thereof; and
 - b) detecting or determining the presence or amount of hybrid formation.

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- 3. (Withdrawn) A method to detect *vanA* in a sample, comprising:
- a) contacting a biological sample suspected of comprising nucleic acid with at least one *vanA*-specific oligonucleotide primer under conditions effective to amplify *vanA* nucleic acid, wherein the *vanA*-specific oligonucleotide primer comprises sequences which include sequences substantially corresponding to nucleotides 870 to 896 of the *vanA* gene, the complement thereof, or a portion thereof, sequences substantially corresponding to nucleotides 851 to 868 of the *vanA* gene, the complement thereof, or a portion thereof, or sequences substantially corresponding to nucleotides 898 to 917 of the *vanA* gene, the complement thereof, or a portion thereof; and
 - b) detecting or determining the presence or amount of amplified nucleic acid.
- 4. (Withdrawn) A method to detect *vanB* in a sample, comprising:
- a) contacting a biological sample suspected of comprising nucleic acid with at least one vanB-specific oligonucleotide primer under conditions effective to amplify vanB nucleic acid, wherein the vanB-specific oligonucleotide primer comprises sequences which include sequences substantially corresponding to nucleotides 387 to 404 of the vanB gene, the complement thereof, or a portion thereof, sequences substantially corresponding to nucleotides 406 to 423 of the vanB gene, the complement thereof, or a portion thereof, or sequences substantially corresponding to nucleotides 426 to 446 of the vanB gene, the complement thereof, or a portion thereof; and
 - b) detecting or determining the presence or amount of amplified nucleic acid.
- 5. (Withdrawn) The method of claim 3 wherein one *vanA*-specific oligonucleotide primer comprises sequences corresponding to nucleotides 851 to 868 of the *vanA* gene or a portion thereof.
- 6. (Withdrawn) The method of claim 3 wherein one *vanA*-specific oligonucleotide primer comprises sequences corresponding to the complement of nucleotides 898 to 919 of the *vanA* gene or a portion thereof.

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7. (Withdrawn) The method of claim 3 wherein the presence or amount of amplified nucleic acid is detected or determined with an oligonucleotide probe comprising sequences corresponding to nucleotides 870 to 896 of the *vanA* gene, the complement thereof or a portion thereof.

- 8. (Currently Amended) The method of claim 1 wherein one *vanA*-specific oligonucleotide probe comprises sequences corresponding to nucleotides 870 to 896 of the *vanA* gene, the complement thereof or [[a]] the portion thereof.
- 9. (Currently Amended) The method of claim 8 wherein the amplified nucleic acid is obtained by amplifying a biological sample comprising nucleic acid with at least one *vanA*-specific oligonucleotide primer comprising sequences corresponding to nucleotides 851 to 868 of the *vanA* gene or [[a]] the portion thereof, or sequences corresponding to the complement of nucleotides 898 to 917 of the *vanA* gene or [[a]] the portion thereof.
- 10. (Withdrawn) The method of claim 4 wherein one *vanB*-specific oligonucleotide primer comprises sequences corresponding to nucleotides 387 to 404 of the *vanB* gene or a portion thereof.
- 11. (Withdrawn) The method of claim 4 wherein one *vanB*-specific oligonucleotide primer comprises sequences corresponding to the complement of nucleotides 426 to 446 of the *vanB* gene or a portion thereof.
- 12. (Withdrawn) The method of claim 4 wherein the presence or amount of amplified nucleic acid is detected or determined with an oligonucleotide probe comprising sequences corresponding to nucleotides 406 to 423 of the *vanB* gene, the complement thereof or a portion thereof.

13. (Withdrawn) The method of claim 2 wherein one *vanB*-specific oligonucleotide probe comprises sequences corresponding to nucleotides 406 to 423 of the *vanB* gene, the complement thereof or a portion thereof.

- 14. (Withdrawn) The method of claim 13 wherein the amplified *vanB* nucleic acid is obtained by amplifying a biological sample comprising nucleic acid with at least one *vanB*-specific oligonucleotide primer comprising sequences corresponding to nucleotides 387 to 404 of the *vanB* gene or a portion thereof, or sequences corresponding to the complement of nucleotides 426 to 446 of the *vanB* gene or a portion thereof.
- 15. (Currently Amended) The method of claim 1, 2, 3 or 4 wherein the sample is a physiological sample.
- 16. (Original) The method of claim 15 wherein the sample is a peri-rectal sample.
- 17. (Currently Amended) The method of claim 1[[, 7]] or 8 further comprising contacting a corresponding sample with a probe which is not a *vanA*-specific probe.
- 18. (Currently Amended) The method of claim 1[[, 7]] or 8 further comprising contacting the sample with a probe which is not a *vanA*-specific probe.
- 19. (Original) The method of claim 17 or 18 further comprising comparing the presence or amount of hybrid formation with the *vanA*-specific oligonucleotide probe to the presence or amount of hybrid formation between the sample contacted with the non-*vanA* probe.
- 20. (Withdrawn) The method of claim 2, 12, or 13 further comprising contacting a corresponding sample with a probe which is not a *vanB*-specific probe.
- 21. (Withdrawn) The method of claim 2, 12, or 13 further comprising contacting the sample with a probe which is not a *vanB*-specific probe.

formation between the sample contacted with the non-vanB probe.

- 23. (Original) The method of claim 17 or 18 wherein the non-vanA probe is a vanB-specific probe.
- 24. (Withdrawn) The method of claim 20 or 21 wherein the non-vanB probe is a vanA-specific probe.
- 25. (Currently Amended) The method of claim $\frac{7}{5}$, 8, $\frac{12 \text{ or } -13}{12 \text{ or } -13}$ wherein the probe is labeled.
- 26. (Withdrawn) The method of claim 23 wherein the *vanA*-specific probe is labeled with a different label than the *vanB*-specific probe.
- 27. (Withdrawn) The method of claim 24 wherein the *vanB*-specific probe is labeled with a different label than the *vanA*-specific probe.
- 28. (Withdrawn) A method to detect *vanA* nucleic acid and *vanB* nucleic acid in a sample, comprising:
- a) contacting a sample suspected of comprising amplified *vanA* nucleic acid or amplified *vanB* nucleic acid with at least one *vanA*-specific oligonucleotide probe and with at least one *vanB*-specific oligonucleotide probe under high stringency hybridization conditions effective to form a hybrid between the *vanA*-specific oligonucleotide probe and amplified *vanA* nucleic acid and between the *vanB*-specific oligonucleotide probe and amplified *vanB* nucleic acid, wherein the *vanA*-specific oligonucleotide probe comprises sequences which include sequences substantially corresponding to nucleotides 870 to 896 of the *vanA* gene, the complement thereof, or a portion thereof, sequences substantially corresponding to nucleotides 851 to 868 of the *vanA* gene, the complement thereof, or a portion thereof, or a portion thereof, or sequences substantially corresponding to

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nucleotides 898 to 917 of the *vanA* gene, the complement thereof, or a portion thereof, and wherein the *vanB*-specific oligonucleotide probe comprises sequences which include sequences substantially corresponding to nucleotides 387 to 404 of the *vanB* gene, the complement thereof, or a portion thereof, sequences substantially corresponding to nucleotides 406 to 423 of the *vanB* gene, the complement thereof, or a portion thereof, or sequences substantially corresponding to nucleotides 426 to 446 of the *vanB* gene, the complement thereof, or a portion thereof; and

- b) detecting or determining the presence or amount of hybrid formation.
- 29. (Withdrawn) A method to detect *vanA* nucleic acid and *vanB* nucleic acid in a sample, comprising:
- a) contacting a biological sample suspected of comprising *vanA* or *vanB* nucleic acid with at least one *vanA*-specific oligonucleotide primer under conditions effective to amplify *vanA* nucleic acid and with at least one *vanB*-specific oligonucleotide primer under conditions effective to amplify *vanB* nucleic acid, wherein the *vanA*-specific oligonucleotide primer comprises sequences which include sequences substantially corresponding to nucleotides 870 to 896 of the *vanA* gene, the complement thereof, or a portion thereof, sequences substantially corresponding to nucleotides 851 to 868 of the *vanA* gene, the complement thereof, or a portion thereof, or sequences substantially corresponding to nucleotides 898 to 917 of the *vanA* gene, the complement thereof, or a portion thereof, and wherein the *vanB*-specific oligonucleotides primer comprises sequences which include sequences substantially corresponding to nucleotides 387 to 404 of the *vanB* gene, the complement thereof, or a portion thereof, sequences substantially corresponding to nucleotides 406 to 423 of the *vanB* gene, the complement thereof, or a portion thereof, or sequences substantially corresponding to nucleotides 426 to 446 of the *vanB* gene, the complement thereof, or a portion thereof, and
 - b) detecting or determining the presence or amount of amplified nucleic acid.
- 30. (Withdrawn) The method of claim 29 wherein the presence or amount of amplified nucleic acid is detected with at least one *vanA*-specific oligonucleotide probe and at least one *vanB*-specific oligonucleotide probe.

- 31. (Withdrawn) The method of claim 28 or 30 wherein the at least one vanA-specific oligonucleotide probe and the at least one vanB-specific oligonucleotide probe have different labels.
- 32. (Withdrawn) An oligonucleotide composition comprising a first oligonucleotide comprising sequences substantially corresponding to nucleotides 870 to 896 of the vanA gene, the complement thereof, or a portion thereof, an oligonucleotide comprising sequences substantially corresponding to nucleotides 851 to 868 of the vanA gene the complement thereof, or a portion thereof, an oligonucleotide comprising sequences substantially corresponding to nucleotides 898 to 917 of the vanA gene, the complement thereof, or a portion thereof, or a combination thereof, wherein the oligonucleotide hybridizes under stringent hybridization conditions to vanA DNA.
- 33. (Withdrawn) An oligonucleotide composition comprising an oligonucleotide comprising sequences substantially corresponding to nucleotides 387 to 404 of the vanB gene, the complement thereof, or a portion thereof, an oligonucleotide comprising sequences substantially corresponding to nucleotides 406 to 423 of the vanB gene the complement thereof, or a portion thereof, an oligonucleotide comprising sequences substantially corresponding to nucleotides 426 to 446 of the vanB gene, the complement thereof, or a portion thereof, or a combination thereof, wherein the oligonucleotide hybridizes under stringent hybridization conditions to vanB DNA.
- 34. (Withdrawn) The oligonucleotide composition of claim 32 wherein at least one oligonucleotide has the length and sequence of any of SEQ ID NOs:2-4.
- 35. (Withdrawn) The oligonucleotide composition of claim 33 wherein at least one oligonucleotide has the length and sequence of any of SEQ ID NOs:6-9.
- 36. (Withdrawn) The oligonucleotide composition of claim 32 or 33 wherein the oligonucleotide is labeled.

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37. (Withdrawn) A kit comprising an oligonucleotide specific for a *vanA* gene and/or a *vanB* gene in a test sample, comprising an oligonucleotide comprising sequences substantially corresponding to nucleotides 870 to 896 of the *vanA* gene, the complement thereof, or a portion thereof, or an oligonucleotide comprising sequences substantially corresponding to nucleotides 406 to 423 of the *vanB* gene, the complement thereof, or a portion thereof, wherein the oligonucleotide hybridizes under stringent hybridization conditions to *vanA* DNA or *vanB* DNA.

- 38. (Withdrawn) The kit of claim 37 further comprising at least one non-vanA or one non-vanB probe.
- 39. (Withdrawn) The kit of claim 37 further comprising an oligonucleotide comprising sequences substantially corresponding to nucleotides 387 to 404 of the *vanB* gene, the complement thereof, or a portion thereof, or an oligonucleotide comprising sequences substantially corresponding to nucleotides 426 to 446 of the *vanB* gene, the complement thereof, or a portion thereof.
- 40. (Withdrawn) The kit of claim 37 further comprising an oligonucleotide comprising sequences substantially corresponding to nucleotides 851 to 868 of the *vanA* gene, the complement thereof, or a portion thereof, or an oligonucleotide comprising sequences substantially corresponding to nucleotides 868 to 917 of the *vanA* gene, the complement thereof, or a portion thereof, or a combination thereof.
- 41. (Withdrawn) The kit of claim 37 wherein at least one oligonucleotide is labeled.
- 42. (Withdrawn) A kit comprising one or more oligonucleotides specific for a *vanA* gene in a test sample, comprising: an oligonucleotide comprising sequences substantially corresponding to nucleotides 851 to 868 of the *vanA* gene, the complement thereof, or a portion thereof, or an oligonucleotide comprising sequences substantially corresponding to nucleotides 898 to 917 of the *vanA* gene, the complement thereof, or a portion thereof, or a combination thereof.

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43. (Withdrawn) A kit comprising one or more oligonucleotides specific for a *vanB* gene in a test sample, comprising: an oligonucleotide comprising sequences substantially corresponding to nucleotides 645 to 645 of the *vanB* gene, the complement thereof, or a portion thereof, or an oligonucleotide comprising sequences substantially corresponding to nucleotides 426 to 446 of the *vanB* gene, the complement thereof, or a portion thereof, or a combination thereof.